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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,271	10/21/2003	Wan Gyo Jeong	SUN-0030	4943
23413 7590 07/07/2008 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER BECKLEY, JONATHAN R				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/691,271

Applicant(s)

JEONG, WAN GYO

Examiner

JONATHAN R. BECKLEY

Art Unit

2625

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date NONE
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1, 3, 4, 5, and 8 are rejected under 35 U.S.C. 102(e)** as being anticipated by **Bohn (U.S. Patent # 6,618,038.)**

Regarding **Claim 1**, **Bohn** teaches an optical image detector (**Column 3, lines 30-32**) that illuminates incident lights on a surface of an object (**Column 6, lines 21-24**), the optical image detector comprising:

a light source (**light source (LED) 156, Column 3, line 58**); and

an incident light generator configured to receive a light from the light source and to generate at least two groups of incident lights having different incident angles with respect to the surface of the object and directed toward the object to generate an image for surface morphology (**Column 6, lines 18-34**,

Noted: "the incident light path may extend from the LED, through the first aperture 150 and to the surface of the object" the first aperture, which includes a lens within is referenced to the incident light generator; and Column 8, lines 1-32; and See Figure 3; Noted: in another

example where the light may light path may skip the first aperture to the surface, Figure 3 discloses a curved reflector which separates the light received from the light source to the surface which would then be referenced to the incident light generator).

Regarding **Claim 3, Bohn** further discloses an optical sensor that is disposed over the surface of the object to sense the lights reflected from the surface of the object, wherein the optical sensor converts an image for the surface morphology of the object into photocurrents (**Column 1, lines 15-21; and Column 2, lines 33-36**).

Regarding **Claim 4, Bohn** teaches a navigation device (**Column 13, line 8**) comprising:

a case including a lower panel having an opening (**Column 13, lines 18-20**);

a light source installed in the case (**light source (LED) 156, Column 3, line 58**);

and

an incident light generator disposed adjacent to the light source and configured to receive a light from the light source and to generate at least two groups of incident lights having different incident angles with respect to a surface of an object, wherein the incident lights are illuminated on the surface of the object through the opening (**Column 6, lines 18-34, Noted: "the incident light path may extend from the LED, through the first aperture 150 and to the surface of the object" the first aperture, which includes a lens within is**

referenced to the incident light generator; and Column 8, lines 1-32; and See Figure 3; Noted: in another example where the light may light path may skip the first aperture to the surface, Figure 3 discloses a curved reflector which separates the light received from the light source to the surface which would then be referenced to the incident light generator).

Regarding **Claim 5, Bohn** further discloses wherein the light source is a light emitting device that generates infrared or visual spectrum rays (**Column 5, lines 52-67**)

Regarding **Claim 8, Bohn** further discloses, further comprising an optical sensor that is disposed over the opening to sense the lights reflected from the surface of the object, wherein the optical sensor converts an image for the surface morphology of the object into photocurrents (**elements 502 and 602; Column 1, lines 15-21; and Column 2, lines 33-36**)

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 6, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over obviousness by **Bohn (U.S. Patent # 6,618,038)** in further in view of **He (US Patent Number 6,540,356)**

Regarding **Claim 2**, **Bohn** discloses a first reflecting plate reflecting the lights of the light source to generate a first group of incident lights having a first incident angle with respect to the surface of the object (**Column 11, lines 16-24**);

a second reflecting plate reflecting the lights of the light source to generate a second group of incident lights having a second incident angle greater than the first incident angle with respect to the surface of the object (**Column 11, lines 16-24**).

Bohn does not disclose a third reflecting plate reflecting the lights of the light source to generate a third group of incident lights having a third incident angle greater than the second incident angle with respect to the surface of the object.

Bohn combined with He does disclose a third reflecting plate reflecting the lights of the light source to generate a third group of incident lights having a third incident angle greater than the second incident angle with respect to the surface of the object (**element 11; Column 3, lines 5-30; and Column 6, lines 12-16**).

Bohn and **He** are combinable because they are both from the same art and classification of producing images with reflective image scanning methods, apparatuses and systems.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Bohn with the teachings of He so to change the incident angle of the incident lights so as to superimpose with the ideal light point and to obtain the two-dimensional profile (**See Abstract**).

Regarding **Claim 6**, Bohn does disclose a first group of incident lights having a first incident angle with respect to the surface of the object (**Column 11, lines 16-39**); a second group of incident lights having a second incident angle greater than the first incident angle with respect to the surface of the object (**Column 11, lines 16-39**).

Bohn does not disclose a third group of incident lights having a third incident angle greater than the second incident angle with respect to the surface of the object.

Bohn combined with He does disclose a third group of incident lights having a third incident angle greater than the second incident angle with respect to the surface of the object (**Column 3, lines 5-30**).

Bohn and He are combinable because they are both from the same art and classification of producing images with reflective image scanning methods, apparatuses and systems.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Bohn with the teachings of He so to change the

incident angle of the incident lights so as to superimpose with the ideal light point and to obtain the two-dimensional profile (**See Abstract**).

Regarding **Claim 7, Bohn combined with He** further discloses a first reflecting plate reflecting the lights of the light source to generate the first group of incident lights(**Bohn: Column 11, lines 16-24**); a second reflecting plate reflecting the lights of the light source to generate the second group of incident lights (**Bohn: Column 11, lines 16-24**); and a third reflecting plate reflecting the lights of the light source to generate the third group of incident lights (**He: element 11; Column 3, lines 5-30; and Column 6, lines 12-16**).

Regarding **Claim 9, Bohn** teaches an optical image detector (**Column 3, lines 30-32**) which illuminates incident lights on a surface of an object to generate an image corresponding to a surface morphology of the object(**Column 6, lines 21-24**), the optical image detector comprising:

a light source generating a first light (**light source (LED) 156, Column 3, line 58**); and

an incident light generator configured to reflect the first light to generate at least two groups of incident lights having different incident angles with respect to the surface of the object (**Column 6, lines 18-34, Noted: "the incident light path may extend from the LED, through the first aperture 150 and to the**

surface of the object" the first aperture, which includes a lens within is referenced to the incident light generator; and Column 8, lines 1-32; and See Figure 3; Noted: in another example where the light may light path may skip the first aperture to the surface, Figure 3 discloses a curved reflector which separates the light received from the light source to the surface which would then be referenced to the incident light generator),
and

wherein the incident light generator comprises:

- a first reflecting plate configured to reflect the first light to generate a first group of incident lights having a first incident angle with respect to the surface of the object (Column 8, lines 1-32; and See Figure 3; Noted: in another example where the light may light path may skip the first aperture to the surface, Figure 3 discloses a curved reflector which separates the light received from the light source to the surface which would then be referenced to the first reflecting plate; and Column 11, lines 16-24);
- a second reflecting plate configured to reflect the lights of the light source to generate a second group of incident lights having a second incident angle greater than the first incident angle with respect to the surface of the object (Column 6, lines 18-34, Noted: "the incident light path may extend from the LED, through the first aperture 150 and to the surface of the object" the first aperture, which includes a lens within is referenced to the second reflecting plate; and Column 11, lines 16-24).

Bohn does not disclose a third reflecting plate configured to reflect the lights of the light source to generate a third group of incident lights having a third incident angle greater than the second incident angle with respect to the surface of the object

Bohn combined with He does disclose a third reflecting plate configured to reflect the lights of the light source to generate a third group of incident lights having a third incident angle greater than the second incident angle with respect to the surface of the object **(Column 3, lines 5-30)**.

Bohn and He are combinable because they are both from the same art and classification of producing images with reflective image scanning methods, apparatuses and systems.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to modify Bohn with the teachings of He so to change the incident angle of the incident lights so as to superimpose with the ideal light point and to obtain the two-dimensional profile **(See Abstract)**.

Response to Arguments

1. Applicant's arguments filed 03/27/2008 have been fully considered but they are not persuasive.

With respect to the applicant's arguments and remarks regarding the independent claims of the current application that, "Bohn does not disclose: a light source, and an incident light generator configured to receive a light from the light source and to generate at least two groups of incident lights having different incident angles

with respect to the surface of the object," has been respectfully been considered by the Examiner.

In reply: Applicant argues Bohn does not disclose: a light source, and an incident light generator configured to receive a light from the light source and to generate at least two groups of incident lights having different incident angles with respect to the surface of the object, as previously recited in Claim 1 and similar to Claim 4. Examiner respectfully disagrees with this remark. The applicant argues this with emphasis stating "light from the LED is directly output to the surface. Bohn in more than one way proves the applicant's arguments to be incorrect. To further explain the citations pointed to above, Bohn explains the light path of the incident light path begins from a light source explained as an LED, through a first aperture, which was described prior to be capable of having lenses and/or reflecting surfaces of such to the surface of the object, which is to be scanned. Bohn discloses within his drawings that the light paths are produced by several wavelengths of light all which have different angles in correspondence to the surface and shows different angles according to the different light paths. Bohn further discloses the above mentioned first aperture in his drawings as well as a curved reflecting piece surrounding the light source which emits different light paths in the direction of the surface at different angles.

Noted: The applicant may not have understood or appreciated the invention of Bohn, or Bohn combined with He from the previous citations. The Examiner has provided further explanations and further detailed citations to where Bohn, or Bohn combined with He teaches, suggests, and discloses the applicant and gives examples

of how the invention Bohn, or Bohn combined with He can be used to anticipate the applicant. Therefore, Claims 1-9 respectfully stand rejected.

Conclusion

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN R. BECKLEY whose telephone number is (571)270-3432. The examiner can normally be reached on Mon-Fri: 7:30-5:00 EST (Alternate Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TWYLER L. HASKINS can be reached on (571)272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jonathan R Beckley/
Examiner, Art Unit 2625
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Examiner, Art Unit 2625
6/30/2008

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